1: Longrigg G-4, 8 (ca. 1915-1940) MH1 Iraq MH1

Of the exports of 'Iraq's natural produce, dates were the most consistently important, and supplied, as they do today, a high percentage of the world's needs; and although in preparation, packing, and the technique of marketing the date merchants were backward, yet the culture itself, favoured by every natural advantage, was highly developed, and the famous 'Iraq dates found their way copiously to America, Europe, India, East Africa, and the Persian Gulf. Rice was a considerable but variable export. Wheat and barley—especially the latter—failed to supply exportable surpluses only in years of drought or locust visitation; but the quantities varied widely, and the quality was reckoned among the world's lowest. A few tons of the seed-crops, some gums and gall-nuts from Kurdistan, liquorice-root from the Tigris banks, were smaller but characteristic exports.

The shipping of Arab horses to India was ancient but fluctuating. Hides and skins were sent to Istanbul and Western Europe, clarified fat to India and the Red Sea, mohair to Istanbul and Europe, intestine-linings for sausage-making to America, dog-manure (under its trade-name of 'pure') for tanning to Austria. Various grades of local wool were pressed for export to America and London. By land to Syria went 'Iraqi camels, sheep by way of Mosul to Aleppo, cattle for Egypt, buffaloes for Anatolia.

The forest areas of the mountain belt of northern 'Iraq offered a potential resource of some interest. Between one-tenth and one-fifth of the higher mountains was covered by fairly well grown and productive forest, and as much again by scrub not incapable of improvement. This, in a territory deficient in timber of all kinds and forced expensively to import it, might have seemed to call for development to meet 'Iraq's needs of building-timber, date-boxes, furniture, and fuel. In fact, unchecked quantities of charcoal and fuel, poles for roofing, and foliage for cattle fodder were taken yearly by Kurdish villagers as, without forethought or control, their local supply seemed to make possible. Protection against grazing, encroachment or fire were all equally unconsidered, re-afforestation was ignored, and the stripped hill-sides were offered to the force of winter rains; the resulting erosion would, by way of the descending rivers, deposit the Kurdish silt in the canals of lower 'Iraq and create there an unending problem of clearance. The trees of Kurdistan were oaks of more than one species—including the giver of gall-nuts—and, less numerous, the juniper, wild pear, pistachio nut, walnut, and maple: and, by stream banks on the lower levels, the poplar, willow, mulberry, plane, and tamarisk.

Agriculture was by far the greatest industry in the territory, and the occupation of four-fifths of its inhabitants; yet with all its

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

power as its chief limiting factor. Attention was being given to the increase and improvement of livestock, a major asset of the country; Ayrshire and Friesian bulls were imported and distributed, rams from a selected herd were sold to reliable farmers, laboratory work on wool was carried out. Yet other lines of progress were dairying, with experiments in cheese production, the breeding of improved mules and donkeys, the increase of egg production by improving poultry breeds. The allotment by the Development Board for the period 1951–6 was nearly 2 million dinars for agricultural research, 3½ million for small-scale reclamation schemes, 1¼ million for animal husbandry, and a million for swamp reclamation. The need for a measure of integration between animal husbandry and crop production, hitherto divorced, was realized, as well as the broad essential singleness of the effort which must be made in the fields of agriculture, irrigation, land settlement, rural education, and the provision of capital. It seemed certain as the nineteen-fifties opened that if this effort were made and sustained by public and Government, and in the absence of any general calamity, the prospects for agricultural development in this wide and favoured territory, within the ultimately fixed limits of its river-water and rainfall resources, exceeded those not only of any Middle Eastern country, but of any territory of comparable size elsewhere in the world; the growing of food for less fortunate nations could prove, indeed, to be the main part of 'Iraq's material contribution to humanity.

In the care of its forests not much had yet been accomplished beyond the limits of study, experiment, and the establishment of tree-nurseries; the wide but neglected forest areas (p. 29) of the north still lay untended and unimproved, lacking notably a modern forest code, a staff of trained foresters, and even detailed exploration. Some steps had indeed been taken to provide fire protection and to carry out by helicopter and air photography the first forest surveys, but few to prevent uncontrolled cutting, grazing, and trespass by the villagers. One million dinars were allotted by the Development Board for forestry development in 1951–6. The significance of these areas to soil erosion, silt deposit, and river flooding was understood, and plans were being prepared on these and allied matters; but only a beginning had been made to solve these problems or to move towards the large-scale action which must be involved, or to provide the 'Iraqi public with sources of fuel and timber at present lacking.

Although sea fishing, based on the Shaṭṭ al-'Arab, was but a limited resource, the rivers and swamps of the territory were the source of a fish catch estimated at many thousands of tons a year, and export of fish to the Levant—and in particular to the Jews in

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

Forestry

137 313 In a country where the plains are almost entirely devoid of trees and only the mountain valleys contain a few scattered forests, the importance of forests as a means of controlling erosion and floods and overcoming the acute shortage of timber needs no emphasis. The Mission did not give special attention to this problem because the government has already received an excellent detailed report and recommendations from a British expert. It wishes only ~~to stress~~ that it is important not only to protect and extend the forests in the mountain areas, but also to undertake the planting of trees in the plains to serve as windbreaks and as sources of fuel and building timber. In the Dujaila project an encouraging beginning has been made with the planting of trees along roads and boundaries. In future settlement schemes it might be well to require farmers to plant and maintain small wood lots. To carry out a proper program the Forestry Department, which is now only a division within the Department of Agriculture, should be given an independent status and headed, as at present, by a well-trained foreigner. The training of an adequate number of foresters should also be undertaken.

Establishment of a Ministry of Agriculture

447 Agriculture, livestock-raising and forestry are of such critical importance to Iraq that they merit a separate ministry in the government. The Mission recommends therefore the establishment of a Ministry of Agriculture and Land Use. Within this Ministry and directly under a permanent secretary, it is suggested that directorates-general be organized for each of the following subjects: agriculture and horticulture; animal husbandry; forestry and soil conservation; land settlement; and research. Special sections for administrative and personnel questions, legal affairs, economic research and statistics, and extension and education might form part of the immediate staff of a permanent secretary. Within the Ministry there should also be grouped the more or less autonomous organizations such as the Tobacco Monopoly, the Grain Board, the Agricultural Machinery Administration, the Date Association and the Chambers of Agriculture. The Mission believes that such a ministry would greatly facilitate more effective direction of the government's efforts to improve agriculture and related pursuits.

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

XII. Forestry

311 137 Anyone who contemplates the treeless plains and the barren mountains of Iraq is quickly persuaded of the need of afforestation. The forest area comprises only 25,500 square kilometers in the four northern provinces, and of this area only 17,000 square kilometers is covered by what may really be classified as forest. 333 The remainder is in forest pasture and sub-Alpine shrub. Yet forestry has received little attention. The only trained forester in Iraq is the foreign director of the Forestry Division which is subordinated to the Department of Agriculture. His staff is inadequate to provide proper protection of existing forests, let alone to undertake forest development. Only a small amount of afforestation, soil reclamation and propagation work is in progress. There is no modern forest law. Forests suffer severely from indiscriminate cutting for fuel and charcoal, overgrazing by livestock, shifting cultivation and fire. In the clearing of land for cultivation in the mountainous areas of the North, forest and pasture have been destroyed and land laid waste by erosion.

Afforestation is of vital importance not only to check erosion and help prevent floods but also ultimately to meet the acute shortage of timber for building and fuel. In the plains belts of trees are needed to serve as windbreaks. A detailed forestry program has already been set forth in a lengthy report by a British expert. The Mission can only urge that his recommendations be carried out.

The first step should be to build up an adequate forestry staff and to enact a satisfactory forest law. The Department of Forestry should be given a status equal to that of the present Department of Agriculture. Trained foresters will be required not only at headquarters and in the field but also at the forestry research stations at Abu Ghuraib, Bakrajo and Erbil. Initially some of the foresters, including the director, will have to be recruited abroad. A course in forestry might be given in the agricultural schools at Abu Ghuraib.

In the northern mountains the existing forest areas should be preserved primarily as a means of protecting the catchment of the Tigris and its principal tributaries. Controlled, rotational grazing will be necessary to protect these forests. To furnish a supply of

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

timber, at least 5,000 square kilometers in the valleys of the main rivers in the north ought to be afforested by means of irrigated plantations of quick-growing species such as poplar, eucalyptus, tamarisk, ash, plane and shisham. Such forests should be able to furnish timber in growing amounts in 15 to 20 years.

It will be at least equally important, however, to plant trees in irrigated plains of central and southern Iraq. The ultimate goal should be to devote at least 10 percent of the irrigated areas to forestry in the form of farmers' woodlots, plantings along roads and canals, windbreaks and shelter belts. In the new settlement areas farmers might well be required to plant a specified area in trees. Measures such as these will make timber available in the immediate vicinity where it is sorely needed.

The Development Board has recognized the need for some additional expenditure on forestry by tentatively setting aside ID 250,000 for this purpose in its five-year program. It is urged that this amount be raised to a total of ID 750,000 over the next five years. More could probably not be spent in this period because staffing and organization will take time and attention. In the ensuing five-year period, however, the amount might well be doubled.

XIII. Settlement of New Land

In the future much of the increase in agricultural production will inevitably come from the settlement of new land. Iraq is one of the few Middle Eastern countries which have large reserves of cultivable land. While the official estimates, which indicate that the area under cultivation can be almost tripled, may be questioned, there is no doubt that there are vast areas both in the rain-fed zone and in the irrigation zone which can be put to the plow. When water from the Habbaniya and Dokan reservoirs becomes available, for example, it will be possible to extend the area under cultivation from about 11 to 15 million donums; and if the Bekhme dam is built, still additional areas can be irrigated.

The way in which these new lands are settled and developed will in many respects be critical for the future of Iraq. If reserved

3:Royal Institute of International Affairs U-4 (no date)1954 M1 Middle East
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yield of nearly twice that of wheat, it is more popular with farmers. In normal years Iraq grows sufficient barley to ensure an exportable surplus of some 300,000 tons. The main importers in 1950 were Holland and Great Britain.

Rice is grown mainly in the marshes of the Lower Tigris and Euphrates near Amara and Suq ash-Shuyukh and in the Hilla and Diwaniya *liwas*, especially in the marshes around Shamiya. A small quantity is grown by irrigation in the valleys of the Kurdish areas. It is sown as a summer crop for harvesting between September and November. Its yield and price are usually higher than those of wheat or barley, but it is more extravagant of water and its cultivation is therefore restricted by law (1932). Before the war there was a small exportable surplus, but exports in recent years have been confined to limited amounts of the inferior qualities.

Dates. Iraqi dates constitute four-fifths of the world's production; the Government has a special interest in their cultivation and marketing. The Shatt al-Arab area above Basra, where growing, packing, and marketing are managed by a Date Board representing all interests, has 18 million[1] trees; the other main producing area in Iraq is on the Euphrates upstream from Nasiriya. Date-palms need a plentiful supply of water, but its quality and that of the soil is less important. Some 350 varieties of date are said to be grown in Iraq, of which only four are usually exported in quantity. Total annual production in normal times averages about 288,000 tons; of this about half is exported and half consumed within Iraq, either as food—dates are a staple item of diet—in natural form or as date syrup, or as raw material for the spirit industry. Of the by-products, the fibrous trunk is used for rope-making and the powdered stone for cattle fodder. Selection and packing for export are improving greatly under the supervision of the Government Date Board. The main importers of Iraqi dates were, in 1950, India, the United States, Egypt, Great Britain, Canada, and Pakistan.

Forests

The forests of Iraq, covering an area of 18,000 square kilometres, are of variable density. They were at one time far denser and more extensive, but have been and are still being reduced by shifting cultivation, fires, and uncontrolled cutting and grazing. The Forestry Department of the Ministry of Agriculture is undertaking a programme of conservation and afforestation, which will safeguard the soil, increase timber and

[1] The official figure; the IBRD report gives a figure of only 9·7 million.

3:Royal Institute of International Affairs U-4 (no date)1954 M1 Middle East
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charcoal production with consequent encouragement of secondary industries, and improve climatic conditions.

Problems of Agriculture

Among the natural difficulties which attend agriculture in Iraq are those imposed by drought, floods, dust storms, diseases, pests, and soil erosion, of which the first two are being attacked by a large-scale programme of irrigation and flood-control. The major diseases are the inflorescence rot of dates, wilt diseases of tomato and watermelon, gummosis of citrus, rusts of cereals, and various mildews. The major insect pests are the Moroccan locust, whose ravages have from time to time caused immense damage to cereal crops, the grasshopper, the Mediterranean fruit fly, the date-fruit mite and Dubas bug, and the Sunn pest and bug *Aolia acuminata* which attack wheat and barley. The Ministry of Agriculture is combating these diseases and pests by modern methods; in locust-fighting Iraq is among the most advanced countries in the world. The problem of soil erosion can to some extent be met by the activities of the Forestry Department.

Irrigation

The aim of water-control in Iraq is to even out the seasonal flow in the two great rivers, Tigris and Euphrates, so as to prevent both drought and flooding in the irrigated areas and to increase the area under cultivation. Irrigation itself imposes the necessity of drainage, to prevent the salting up of irrigated land and the further spread of malaria.

Three methods of irrigation are employed: direct inundation at flood-time, which is used for rice cultivation and is of comparatively limited importance; distribution of water from rivers and canals by direct flow on to the land through a network of small channels and cuts; the lifting of water into the channels and cuts by various methods which include the use of mechanical pumps. The date-palm groves of the Shatt al-Arab benefit by natural irrigation; twice a day as the tide rises and falls fresh water is forced into the creeks and channels and then drains out again.

Irrigation—often highly organized—has been a feature of Iraqi agriculture since the Sumerian civilization, in decline since the seventh century, and especially since the thirteenth and fourteenth centuries. Serious reconstruction began in this century, with the Hindiya barrage, completed in 1913, for which the Euphrates was diverted, and the Kut barrage on the

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245 356 Iraq produces about 80 per cent. of the total [439] world supply of dates—that is, of the proportion of dates that form an article of commerce, because most dates are eaten directly by the growers, or else bartered. The general conditions under which date palms thrive have already been touched upon, and it is sufficient to recall that the palms can flourish in dry, saline, sandy, loamy, or even water-logged soils, although the maximum yield of fruit is obtained when abundant water is available.

The region of the Shatt el Arab is pre-eminently suited to date-production, and both banks are lined with date groves extending inland for about a mile and a half. Some 25 to 30 million palms are cultivated throughout the region, and of these, one-half are found close to the Shatt el Arab, the rest occurring along the river banks as far north as Latitude 33° N. A curious feature is the rise of the river under the influence of the incoming tide. Fresh water is ponded back in the Shatt el Arab, and floods the banks to a depth of as much as 3 feet to provide natural and regular irrigation of the groves—a phenomenon that from the point of view of the native farmer is wholly estimable.

In order to ensure a good crop, the land is dug over once every four years; and because of the frequent presence of creeks and water-courses, this must be done by hand. Artificial pollination is, as we have already seen, highly necessary; and though most groves include 3 per cent. of male palms, the district of Fao has developed a special trade in male pollen dust, from which other date-growing regions are supplied.

About 130 varieties of date are known, but three are most widely grown. The *Halawi* palm produces the finest fruit, but gives only a moderate yield (44 lb. per tree) (Dowson), whilst the *Sayir* produces slightly less, but is more tolerant of inferior growing conditions, and is probably the most widely grown. The *Zahidi* does not give a fruit of high quality, but the yield is over 120 lb. per tree, and this compensates for the low price obtained. Fertilisation of the female palm takes place in April, and picking begins in August, when large numbers of nomadic tribesmen move into the date-growing areas to work as seasonal harvesters.

273 231 ●313 289 Besides forming an extremely important part of local diet, dates are used in the distilling of *arak*—the chief fermented beverage outside the vine-growing areas, and one thought to have value as a prophylactic against malaria. The crushed stones are fed to cattle, and both leaves and trunk of the palm are used in light constructional work (houses, boats, even bridges), and also in the manufacture of paper.